

Brush Wellman Medical Surveillance Program

2/7/96

3.1 Beryllium Medical Surveillance

Purpose: The purpose of performing medical surveillance for health effects of beryllium is to provide information in a form useful to judging the effectiveness of efforts to prevent certain health effects from occurring.

3.1.1 Dermatologic effects: Beryllium irritant and allergic contact dermatitis, chemical ulcer, ulcerating granuloma, and dermal granuloma cases will be reported on the OSHA 200 log at each work site, and each worksite will summarize these at year's end in an annual report. This summary will include a clinical summary, the cause of the dermatitis, and the preventive measure instituted to prevent further cases. The worksite reports will be brought together into an annual company report.

3.1.2 Acute pulmonary beryllium disease: Cases will be reported on the OSHA 200 log at each work site, and each worksite will summarize these at year's end in an annual report. This summary will include a clinical summary, the cause of the acute pulmonary beryllium disease, and the preventive measure instituted to prevent further cases. Cases will also be reported from worksites to the corporate medical director within 24 hours of clinical recognition by means of telephone or electronic mail. The worksite reports will be brought together into an annual company report.

3.1.3. Chronic pulmonary beryllium disease (CBD):

Employees with pulmonary granuloma on biopsy and an abnormal broncho-alveolar lavage lymphocyte proliferation test (BALLPT) will be considered to have a diagnosis of beryllium pulmonary granuloma. If in addition there is a history of compatible symptomatology and physiologic evidence of compatible pulmonary function decrement, the employee will be considered to have a diagnosis of chronic beryllium disease.

Medical surveillance for CBD will be directed towards current employees who spend or have spent time in facilities where potential exists for exposure to environments with air levels of beryllium greater than 0.1 micrograms per cubic meter.

Surveillance for CBD will consist of:

- . Medical history, mandatory (baseline, annual, and exit)
- . Pulmonary function testing, mandatory (baseline, annual, and exit). Quarterly testing will continue to be offered to employees who wish more frequent surveillance.
- . Chest x-ray: Mandatory (baseline, every 3 years and exit). Voluntary (each year)
- . Blood lymphocyte proliferation testing (BLPT), voluntary
 - . Selected work positions (after year 1, year 2, year 3, every third year thereafter, and exit from employment, unless employee is classified as having a confirmed abnormal test)
 - . Ceramic machining
 - . Beryllium metal production
 - . Other employees who have spent time in facilities where potential exists for exposure to environments with air levels of beryllium greater than 0.1 micrograms per cubic meter. (after three years, every three years thereafter, and exit from employment, unless employee is classified as having a confirmed abnormal test)
- . Bronchoscopy
 - . Employees with a confirmed abnormal BLPT or results from medical history,

pulmonary function testing, or chest x-ray which raise serious suspicion of CBD are referred for bronchoscopy.

- . Employees with an abnormal broncho-alveolar lavage lymphocyte proliferation test (BALLPT) and without granuloma finding on biopsy will be offered repeat bronchoscopy every three years for two cycles.

3.1.4. Services for Former Employees who think they may have CBD

When Brush Wellman is contacted by an employee with a concern that they may have clinical CBD, the medical resource serving the last worksite of record will

- . Take a written history of the former employee's concerns, including clinical history..
- . Ask the former employee for permission for release of all medical records relevant to the diagnosis of CBD.
- . Write for these records.
- . If after review of this information, there are clinical indications this may be a diagnosis of CBD, perform
 - . Relevant history and physical examination
 - . Chest x-ray
 - . Pulmonary function testing
 - . Physical examination
 - . BLPT
- . If after review of these test results, there are clinical indications this may be a diagnosis of CBD,
 - . send the individual for bronchoscopy, including BALLPT and biopsy.
- . Classify the individual as
 - . Not clinical CBD based on failure to complete protocol.
 - . Not clinical CBD based on history and medical record review
 - . Not clinical CBD based on history, physical, PFTs, and chest x-ray, and BLPT findings.
 - . Not clinical CBD based on no granuloma on biopsy or both BALLPT and BLPT not abnormal.
 - . Beryllium pulmonary granuloma (BPG) based on granuloma on biopsy and BALLPT abnormal, but no compatible clinical illness (symptomatology and physiologic parameters).
 - . Clinical CBD based on granuloma on biopsy and BALLPT abnormal, and compatible clinical illness (symptomatology and physiologic parameters).
 - . Clinical CBD based on clinical criteria when bronchoscopy contraindicated by person's condition.

3.1.5. Clinical follow-up of employees and former employees with sub-clinical and clinical CBD.

The medical resource serving the worksite at which the person is employed or was last employed will perform the following each year for each person with sub-clinical and clinical CBD.

- . Relevant update history and physical examination
- . Chest x-ray
- . Pulmonary function test
- . Review of therapy indications